Alkylphenols - comments of Environmental Defense

Submitted via Internet September 20, 2001.

Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for Alkylphenols.

Seventeen phenols substituted with only one or more alkyl and/or benzyl groups are proposed as a category.

Environmental Defense strongly supports the establishment of categories for HPV chemicals because it lessens the use of animals in toxicity testing and it helps set priorities for the available resources. However, the existing scientific database does not come close to justifying a single category for all 17 chemicals. Our concern comes primarily from the lack of information on repeated dose and reproduction/development studies where only three and four, respectively, of the proposed members have data. Given the substantial dissimilarities in structure, metabolism and physical characteristics coupled with the lack of mechanistic data on the biological level, we cannot agree that the proposed single category is appropriate for the HPV program.

The test plan narrative states that these 17 phenols were originally split into four categories. The science would likely support this number of categories although placement of a few of the members might be difficult. One category that seems obvious could include heptylphenol, octylphenol, nonylphenol, dodecylphenol, and perhaps p-tert-octylphenol. In addition to the studies cited in the test plan, the NTP is currently conducting a major series of studies on nonylphenol and some of there results are now becoming publicly available; effects on neurological development appear to be occurring. The NTP data will probably complete the requirements for the above-mentioned 4 or 5 chemicals.

The greatest public health concern for the alkylphenols is in the area of reproduction and development because they are considered endocrine-disrupting chemicals based on estrogen like activity in a number of in vivo and in vitro systems. The data cited here along with the NTP studies and others are NOT adequate to address the data needs for the other 12 or 13 chemicals. Additional repeated dose and reproduction/development studies will have to be conducted for the cumylphenols and others.

After reviewing multiple proposals over the last year for establishment of categories, we are concerned that the criteria for categories of HPV chemicals are unclear and/or misapplied. One important component of a strategy for determining members of a category could use molecular techniques such as microarray approaches that permit direct comparisons of effects on gene expression for candidate members. Clearly, if proposed members of a category activate and/or repress the same pattern of genes, this would provide strong evidence in support of a proposed category. We would be glad to discuss such strategies with EPA and sponsors of the chemicals eligible for the HPV program.

Thank you for this opportunity to comment.

George Lucier, Ph.D.
Consulting Toxicologist, Environmental Defense

Karen Florini
Senior Attorney, Environmental Defense